

#-2



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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/055,430

DATE: 02/13/2002
TIME: 19:32:52

Input Set : N:\Crf3\RULE60\10055430.txt
Output Set: N:\CRF3\02132002\J055430.raw

7 <110> APPLICANT: Rangel-Aldao, Rafael
 9 Bravo, Adriana
 11 Sanchez, Beatriz
 13 Galindo-Castro, Ivan
 17 <120> TITLE OF INVENTION: Malt Beverage Having Stabilized Flavor and Methods of
 Production
 19 Thereof
 23 <130> FILE REFERENCE: 1390.0070004
 29 <140> CURRENT APPLICATION NUMBER: 10/055,430
 32 <141> CURRENT FILING DATE: 2002-01-25
 34 <150> PRIOR APPLICATION NUMBER: 09/150,347
 36 <151> PRIOR FILING DATE: 1998-09-09
 40 <150> PRIOR APPLICATION NUMBER: 60/058,398
 43 <151> PRIOR FILING DATE: 1997-09-09
 52 <160> NUMBER OF SEQ ID NOS: 6
 58 <170> SOFTWARE: PatentIn Ver. 2.0
 64 <210> SEQ ID NO: 1
 67 <211> LENGTH: 400
 70 <212> TYPE: PRT
 73 <213> ORGANISM: Saccharomyces carlsbergensis
 78 <400> SEQUENCE: 1
 81 Met Ser Phe Val Lys Asp Phe Lys Pro Gln Ala Leu Gly Asp Thr Asn
 83 1 5 10 15
 85 Leu Phe Lys Pro Ile Lys Ile Gly Asn Asn Glu Leu Leu His Arg Ala
 87 20 25 30
 89 Val Ile Pro Pro Leu Thr Arg Met Arg Ala Leu His Pro Gly Asn Ile
 91 35 40 45
 93 Pro Asn Arg Asp Trp Ala Val Glu Tyr Tyr Thr Gln Arg Ala Gln Arg
 95 50 55 60
 97 Pro Gly Thr Met Ile Ile Thr Glu Gly Ala Phe Ile Ser Pro Gln Ala
 99 65 70 75 80
 101 Gly Gly Tyr Asp Asn Ala Pro Gly Val Trp Ser Glu Glu Gln Met Val
 103 85 90 95
 105 Glu Trp Thr Lys Ile Phe Asn Ala Ile His Glu Lys Lys Ser Phe Val
 107 100 105 110
 109 Trp Val Gln Leu Trp Val Leu Gly Trp Ala Ala Phe Pro Asp Asn Leu
 111 115 120 125
 113 Ala Arg Asp Gly Leu Arg Tyr Asp Ser Ala Ser Asp Asn Val Phe Met
 115 130 135 140
 117 Asp Ala Glu Gln Glu Ala Lys Ala Lys Lys Ala Asn Asn Pro Gln His
 119 145 150 155 160
 121 Ser Leu Thr Lys Asp Glu Ile Lys Gln Tyr Ile Lys Glu Tyr Val Gln
 123 165 170 175
 125 Ala Ala Lys Asn Ser Ile Ala Ala Gly Ala Asp Gly Val Glu Ile His

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127	180	185	190
129	Ser Ala Asn Gly Tyr Leu Leu Asn Gln Phe Leu Asp Pro His Ser Asn		
131	195	200	205
133	Thr Arg Thr Asp Glu Tyr Gly Gly Ser Ile Glu Asn Arg Ala Arg Phe		
135	210	215	220
137	Thr Leu Glu Val Val Asp Ala Leu Val Glu Ala Ile Gly His Glu Lys		
139	225	230	235
141	240	245	250
143	Val Gly Leu Arg Leu Ser Pro Tyr Gly Val Phe Asn Ser Met Ser Gly		255
145	Gly Ala Glu Thr Gly Ile Val Ala Gln Tyr Ala Tyr Val Ala Gly Glu		
147	260	265	270
150	Leu Glu Lys Arg Ala Lys Ala Gly Lys Arg Leu Ala Phe Val His Leu		
152	275	280	285
154	290	295	300
158	Tyr Glu Gly Gly Ser Asn Asp Phe Val Tyr Ser Ile Trp Lys Gly Pro		
160	305	310	315
162	320	Val Ile Arg Ala Gly Asn Phe Ala Leu His Pro Glu Val Val Arg Glu	
164	325	330	335
166	340	345	350
168	Glu Val Lys Asp Lys Arg Thr Leu Ile Gly Tyr Gly Arg Phe Phe Ile		
170	355	360	365
172	Ser Asn Pro Asp Leu Val Asp Arg Leu Glu Lys Gly Leu Pro Leu Asn		
174	370	375	380
176	380	385	390
178	Asp Tyr Pro Thr Tyr Glu Glu Ala Leu Lys Leu Gly Trp Asp Lys Lys		
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187	<210> SEQ ID NO: 2		
190	<211> LENGTH: 400		
193	<212> TYPE: PRT		
196	<213> ORGANISM: Saccharomyces carlsbergensis		
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205	Met Pro Phe Val Lys Asp Phe Lys Pro Gln Ala Leu Gly Asp Thr Asn		
207	1	5	10
209	15	Leu Phe Lys Pro Ile Lys Ile Gly Asn Asn Glu Leu Leu His Arg Ala	
211	20	25	30
213	Val Ile Pro Pro Leu Thr Arg Met Arg Ala Gln His Pro Gly Asn Ile		
215	35	40	45
217	45	Pro Asn Arg Asp Trp Ala Val Glu Tyr Tyr Ala Gln Arg Ala Gln Arg	
219	50	55	60
221	60	Pro Gly Thr Leu Ile Ile Thr Glu Gly Thr Phe Pro Ser Pro Gln Ser	
223	65	70	75
225	80	Gly Gly Tyr Asp Asn Ala Pro Gly Ile Trp Ser Glu Glu Gln Ile Lys	
227	85	90	95
229	95	Glu Trp Thr Lys Ile Phe Lys Ala Ile His Glu Asn Lys Ser Phe Ala	
231	100	105	110
233	110	Trp Val Gln Leu Trp Val Leu Gly Trp Ala Ala Phe Pro Asp Thr Leu	
235	115	120	125
237	125	Ala Arg Asp Gly Leu Arg Tyr Asp Ser Ala Ser Asp Asn Val Tyr Met	

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239	130	135	140
241	Asn Ala Glu Gln Glu Glu Lys Ala Lys Lys Ala Asn Asn Pro Gln His		
243	145	150	155
245	Ser Ile Thr Lys Asp Glu Ile Lys Gln Tyr Val Lys Glu Tyr Val Gln		160
247	165	170	175
249	Ala Ala Lys Asn Ser Ile Ala Ala Gly Ala Asp Gly Val Glu Ile His		
251	180	185	190
253	Ser Ala Asn Gly Tyr Leu Leu Asn Gln Phe Leu Asp Pro His Ser Asn		
255	195	200	205
257	Asn Arg Thr Asp Glu Tyr Gly Ser Ile Glu Asn Arg Ala Arg Phe		
259	210	215	220
261	Thr Leu Glu Val Val Asp Ala Val Val Asp Ala Ile Gly Pro Glu Lys		
263	225	230	235
265	Val Gly Leu Arg Leu Ser Pro Tyr Gly Val Phe Asn Ser Met Ser Gly		240
267	245	250	255
269	Gly Ala Glu Thr Gly Ile Val Ala Gln Tyr Ala Tyr Val Leu Gly Glu		
271	260	265	270
273	Leu Glu Arg Arg Ala Lys Ala Gly Lys Arg Leu Ala Phe Val His Leu		
275	275	280	285
277	Val Glu Pro Arg Val Thr Asn Pro Phe Leu Thr Glu Gly Glu Gly Glu		
279	290	295	300
281	Tyr Asn Gly Gly Ser Asn Lys Phe Ala Tyr Ser Ile Trp Lys Gly Pro		
283	305	310	315
285	Ile Ile Arg Ala Gly Asn Phe Ala Leu His Pro Glu Val Val Arg Glu		320
287	325	330	335
289	Glu Val Lys Asp Pro Arg Thr Leu Ile Gly Tyr Gly Arg Phe Phe Ile		
291	340	345	350
293	Ser Asn Pro Asp Leu Val Asp Arg Leu Glu Lys Gly Leu Pro Leu Asn		
295	355	360	365
297	Lys Tyr Asp Arg Asp Thr Phe Tyr Lys Met Ser Ala Glu Gly Tyr Ile		
299	370	375	380
302	Asp Tyr Pro Thr Tyr Glu Glu Ala Leu Lys Leu Gly Trp Asp Lys Asn		
304	385	390	395
			400
313	<210> SEQ ID NO: 3		
316	<211> LENGTH: 400		
319	<212> TYPE: PRT		
322	<213> ORGANISM: Saccharomyces carlsbergensis		
328	<400> SEQUENCE: 3		
332	Met Pro Phe Val Lys Gly Phe Glu Pro Ile Ser Leu Arg Asp Thr Asn		
334	1	5	10
336	Leu Phe Glu Pro Ile Lys Ile Gly Asn Thr Gln Leu Ala His Arg Ala		15
338	20	25	30
340	Val Met Pro Pro Leu Thr Arg Met Arg Ala Thr His Pro Gly Asn Ile		
342	35	40	45
344	Pro Asn Lys Glu Trp Ala Ala Val Tyr Tyr Gly Gln Arg Ala Gln Arg		
346	50	55	60
348	Pro Gly Thr Met Ile Ile Thr Glu Gly Thr Phe Ile Ser Pro Gln Ala		
350	65	70	75
352	Gly Gly Tyr Asp Asn Ala Pro Gly Ile Trp Ser Asp Glu Gln Val Ala		80

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354 85 90 95
356 Glu Trp Lys Asn Ile Phe Leu Ala Ile His Asp Cys Gln Ser Phe Ala
358 100 105 110
360 Trp Val Gln Leu Trp Ser Leu Gly Trp Ala Ser Phe Pro Asp Val Leu
362 115 120 125
364 Ala Arg Asp Gly Leu Arg Tyr Asp Cys Ala Ser Asp Arg Val Tyr Met
366 130 135 140
368 Asn Ala Thr Leu Gln Glu Lys Ala Lys Asp Ala Asn Asn Leu Glu His
370 145 150 155 160
372 Ser Leu Thr Lys Asp Asp Ile Lys Gln Tyr Ile Lys Asp Tyr Ile His
374 165 170 175
376 Ala Ala Lys Asn Ser Ile Ala Ala Gly Ala Asp Gly Val Glu Ile His
378 180 185 190
380 Ser Ala Asn Gly Tyr Leu Leu Asn Gln Phe Leu Asp Pro His Ser Asn
382 195 200 205
384 Lys Arg Thr Asp Glu Tyr Gly Gly Thr Ile Glu Asn Arg Ala Arg Phe
386 210 215 220
388 Thr Leu Glu Val Val Asp Ala Leu Ile Glu Thr Ile Gly Pro Glu Arg
390 225 230 235 240
392 Val Gly Leu Arg Leu Ser Pro Tyr Gly Thr Phe Asn Ser Met Ser Gly
394 245 250 255
396 Gly Ala Glu Pro Gly Ile Ile Ala Gln Tyr Ser Tyr Val Leu Gly Glu
398 260 265 270
400 Leu Glu Lys Arg Ala Lys Ala Gly Lys Arg Leu Ala Phe Val His Leu
402 275 280 285
404 Val Glu Pro Arg Val Thr Asp Pro Ser Leu Val Glu Gly Glu Gly Glu
406 290 295 300
408 Tyr Ser Glu Gly Thr Asn Asp Phe Ala Tyr Ser Ile Trp Lys Gly Pro
410 305 310 315 320
412 Ile Ile Arg Ala Gly Asn Tyr Ala Leu His Pro Glu Val Val Arg Glu
414 325 330 335
416 Gln Val Lys Asp Pro Arg Thr Leu Ile Gly Tyr Gly Arg Phe Phe Ile
418 340 345 350
420 Ser Asn Pro Asp Leu Val Tyr Arg Leu Glu Glu Gly Leu Pro Leu Asn
422 355 360 365
424 Lys Tyr Asp Arg Ser Thr Phe Tyr Thr Met Ser Ala Glu Gly Tyr Thr
426 370 375 380
428 Asp Tyr Pro Thr Tyr Glu Glu Ala Val Asp Leu Gly Trp Asn Lys Asn
430 385 390 395 400
438 <210> SEQ ID NO: 4
441 <211> LENGTH: 30
444 <212> TYPE: PRT
447 <213> ORGANISM: Saccharomyces carlsbergensis
453 <400> SEQUENCE: 4
456 Met Pro Phe Val Lys Asp Phe Lys Pro Gln Ala Leu Gly Asp Thr Asn
458 1 5 10 15
460 Leu Phe Lys Pro Ile Lys Ile Gly Asn Asn Glu Leu Leu His
462 20 25 30
470 <210> SEQ ID NO: 5

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Input Set : N:\Crf3\RULE60\10055430.txt
Output Set: N:\CRF3\02132002\J055430.raw

473 <211> LENGTH: 25
476 <212> TYPE: DNA
479 <213> ORGANISM: Artificial sequence
486 <220> FEATURE:
488 <223> OTHER INFORMATION: Description of artificial sequence: synthetic
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494 <400> SEQUENCE: 5
497 ggaattcatg ccatttgtt aaggac 25
506 <210> SEQ ID NO: 6
509 <211> LENGTH: 25
512 <212> TYPE: DNA
515 <213> ORGANISM: Artificial sequence
522 <220> FEATURE:
524 <223> OTHER INFORMATION: Description of artificial sequence: synthetic
oligonucleotide
530 <400> SEQUENCE: 6
533 ctcttagatta gagcttcttc gtacg 25

VERIFICATION SUMMARY
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